

DRILL HOLES

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PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal with a traffic surveillance camera at the intersection of MD 185 (Connecticut Ave) and MD 193 (University Blvd) in Montgomery County. The existing strain pole structure shall be replaced by a new mast arm traffic signal with video detection and Countdown pedestrian signals with audible pushbuttons. MD 185 (Connecticut Ave) is assumed to run a north - south direction.

II. INTERSECTION OPERATION

- The intersection shall operate in a NEMA four-phase, semi-actuated mode. Northbound MD 185 shall operate as two separate phases. Northbound traffic remaining on MD 185 shall operate independently and also concurrently with southbound MD 185. Northbound MD 185 traffic exiting onto eastbound MD 193 shall operate concurrently with northbound MD 185 traffic remaining on MD 185 and also concurrently with westbound MD 193 traffic. The pedestrian phase across the north leg of MD 185 shall now be a Countdown pedestrian phase with audible pushbuttons on recall. The pedestrian across MD 193 shall now be a Countdown pedestrian phase with audible pushbuttons on recall.
- A full-traffic-actuated, eight-phase controller with video interface, 2-wire Control Unit and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.
- Montgomery County signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the Montgomery County Signal Shop for testing and programming.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
 - All controller cabinet wiring will be performed by the Montgomery County Signal Shop Contact Mr. Kamal Hamud at (240) 777-8761 seventy-two hours in advance of intended work.
 - All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
 - Disconnecting of Traffic Surveillance cable shall be performed by Montgomery County Forces. The Contractor shall run these cables into the splice box and properly tag the cable. All splice box connections will be performed by Montgomery County Forces. Contact Mr. Mike Kinney at (301) 674-8958 seventy-two hours in advance of intended work for wiring of traffic surveillance camera.
5. APS will function as follows:
- FOR MD 193 (UNIVERSITY BLVD)
- When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross University Boulevard"
 - When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.
- FOR MD 185 (CONNECTICUT AVE)
- When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Connecticut Avenue"
 - When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Jeff Wentz
Assistant District Engineer - Traffic
Phone: (301) 513-7358

Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Augie Rebish
District Engineer - Utility
Phone: (301) 513-7350

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Ed Rodenhizer
Signal Shop
410-787-7652

Mr. Sonny Bailey
Sign Shop
410-787-7676

The power company representative is:

Mr. Steve Custer
PEPCO Customer Design
201 W Gude Dr.
Rockville, MD 20850
Phone: 301 548-4333

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

CAT NO.	DESCRIPTION	QUANTITY
971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	1 EA
973023	SHEET ALUMINIUM SIGNS	140 - 160 SF
	D3-2 mod "MD 185 Connecticut Ave / LEFT LANES" sign. (variable x 16").	1 EA
	D3-2 mod "MD 193 University Blvd / RIGHT LANES" sign. (variable x 16").	1 EA
	D3-2 "(arrow) Connecticut Ave" sign. (variable x 16").	1 EA
	R3-5L "LEFT TURN ONLY" sign. (30" x 36")	3 EA
	R10-11B (NO TURN ON RED)" sign. (30" x 24")	1 EA
	R3-2 "NO LEFT TURN" sign. (30" x 30")	1 EA

EQUIPMENT LIST (cont')

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

CAT NO.	DESCRIPTION	QUANTITY
	Pedestrian education R10-3(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS UNIVERSITY BLVD").	2 EA
	Pedestrian education R10-3(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS CONNECTICUT AVE").	4 EA
	M6-2R "Arrow" sign. (21" x 15").	2 EA
	M6-2R "Arrow" sign. (21" x 15").	1 EA
	W11-2 "SCHOOL" sign. (30" x 30").	4 EA
	W16-9P "AHEAD" sign. (30" x 30").	1 EA
	GUIDE SHIELD ASSEMBLY (48"x75") pole mounted.	1 EA
	M3-1 "EAST" (30"x15")	
	M1-5 "MD 193" (48"x36")	
	M6-3 "left arrow" (30"x24")	

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

CAT NO.	DESCRIPTION	QUANTITY
120662	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS - ANY WIDTH	270 LF
203030	TEST PIT EXCAVATION	8 CY
585625	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	270 LF
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	120 LF
634300	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	300 LF
655105	5 INCH CONCRETE SIDEWALK	1160 SF
655120	DETECTABLE WARNING SURFACE FOR CURB RAMPS	100 SF
800000A	16" COUNTDOWN PEDESTRIAN SIGNAL HEAD	6 EA
800000A	2 WIRE CONTROL UNIT	1 EA
800000A	AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	6 EA
800000A	3 WIRE, 1 CONDUCTOR (NO. 250 KCMIL) ELECTRICAL CABLE	215 EA
801004	CONCRETE FOR SIGNAL FOUNDATION	22 CY
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	1000 LF
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED	375 LF
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	40 LF
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	310 LF
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	250 LF
807202	METERED SERVICE PEDESTAL	1 LF
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	10 EA
813015	INSTALL GROUND MOUNTED SIGN	37 SF
813015	INSTALL OVERHEAD SIGN	103 - 29 SF
816001	VIDEO DETECTION CAMERA	2 SF
816005	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	1 EA
816010	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	1 EA
816015	VIDEO INTERFACE EQUIPMENT	1 EA
818004	10 FOOT BREAKAWAY PEDESTAL POLE	4 EA
818030	STEEL POLE WITH SINGLE 38 FOOT MAST ARM (NOTE: 16" POLE WITH SPECIAL 15" "T" DIMENSION)	2 EA
818036	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM (NOTE: 16" POLE WITH SPECIAL 15" "T" DIMENSION)	1 EA
818041	STEEL POLE WITH A SINGLE 60 FOOT MAST ARM (NOTE: 16" POLE WITH SPECIAL 15" "T" DIMENSION)	1 EA
833062	3 INCH DIAMETER POLYVINYL CHLORIDE CONDUIT, SCHEDULE 80, RISER	50 LF
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	9 EA
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	27 EA
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	785 LF
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	1000 LF
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	1100 LF
861117	ELECTRICAL CABLE - 3 WIRE (NO. 4 AWG)	20 LF
871202	INSTALL CONTROLLER CABINET - BASE MOUNT	1 EA
873004	REMOVE AND SALVAGE EXISTING EQUIPMENT	1 EA
800000		1 EA

ADDENDUM 1: DATE: 10-16-07

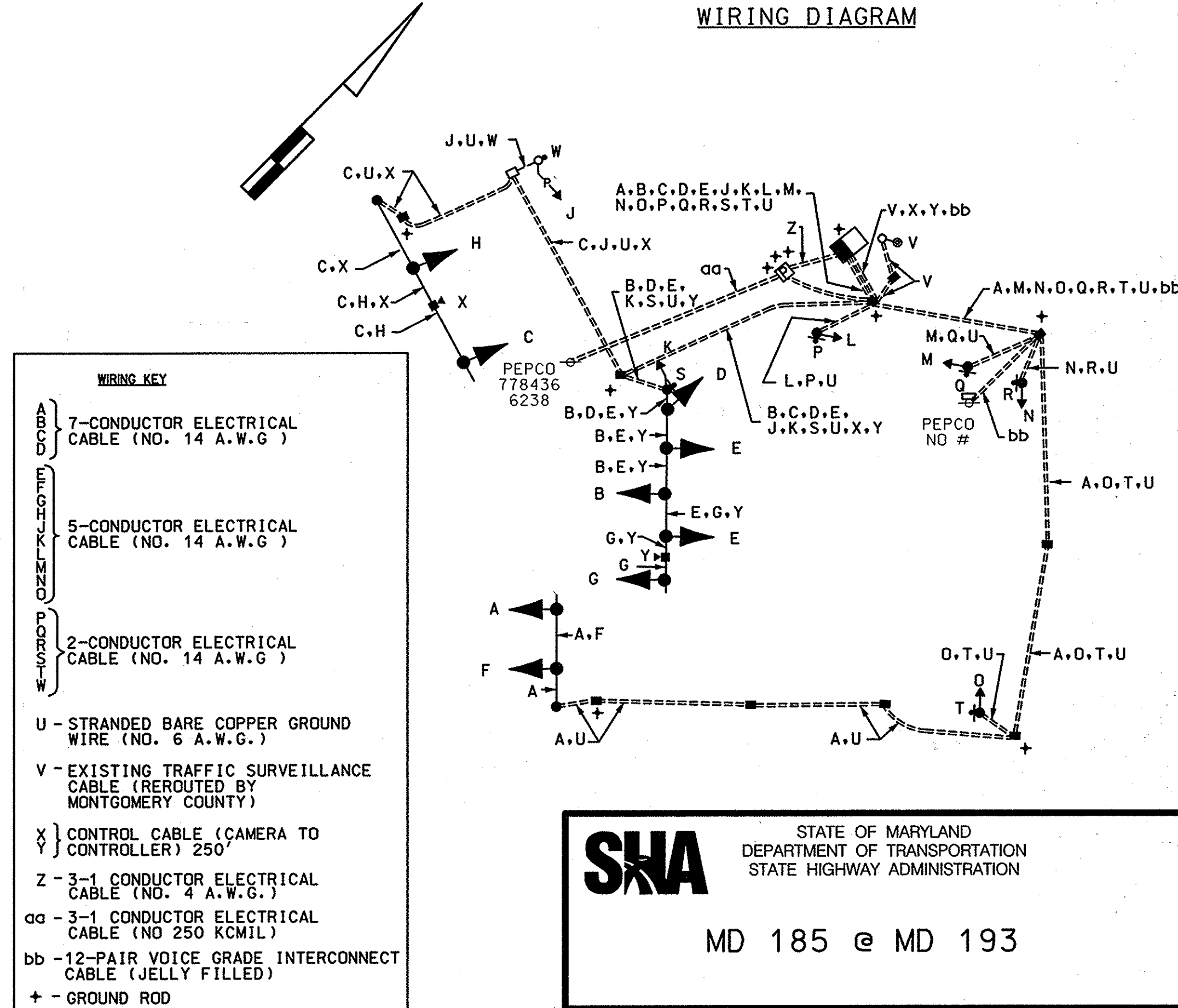
PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 1	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
PED CLEAR / COUNTDOWN	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
1 CHANGE	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
PHASE 1 & 6	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
1 & 6 CHANGE	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
PHASE 2 & 6	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
PED CLEAR / COUNTDOWN	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
2 & 6 CHANGE	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y

C. EQUIPMENT TO BE REMOVED

Montgomery County Forces shall remove the controller and all auxiliary equipment from the controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

WIRING DIAGRAM



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 185 @ MD 193

GENERAL INFORMATION SHEET

SCALE NONE DATE 6/18/07 CONTRACT NO. M02825185

DESIGNED BY JWA COUNTY MONTGOMERY
DRAWN BY RC LOGMILE 15018504.54
CHECKED BY F.A.P. NO. AC-STPG-000A(241)E TDS NO. H601
TS NO. 785-C DRAWING NO. 2 OF 3 SHEET NO. 29 OF 42



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